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Claim Amendments
Including a complete listing of all claims

1. (Previously Presented) Vertical cavity surface emitting laser, which emits the fundamental transverse radiation mode only, comprising:

a laser active region, a resonator having a first reflector and a second reflector,

wherein the first reflector comprises a first plurality of doped layers having alternately a low index of refraction and a high index of refraction, an aperture layer located above said first plurality of doped layers and formed of an insulating material that is substantially non-transparent for a specified wavelength range, the aperture layer having an aperture formed of conductive and optically transparent material with a first characteristic lateral size (d_{ox}), and a second plurality of doped layers having alternately a low Index of refraction and a high Index of refraction, the second plurality having a second characteristic lateral size (d_m), a difference of the first characteristic lateral size (d_{ox}), and

wherein the second characteristic lateral size (d_m) being smaller than the first characteristic lateral size (d_{ox}) and being adapted to generate increased optical losses of said resonator with respect to higher order modes for said specified wavelength

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range compared to the optical losses caused by said aperture layer alone, and

a radiation output window formed above said first reflector or below said second reflector,

whereby the vertical cavity surface emitting laser behavior is determined by the interplay of at least two different design or characteristic dimensions and therefore a deviation of one parameter or dimension from a target value may not unduly compromise performance.

2. (Original) The vertical cavity surface emitting laser of claim 1, wherein said radiation output window has a third characteristic lateral size that is less than the first and the second characteristic lateral sizes.

3. (Previously Presented) The vertical cavity surface emitting laser of claim 1, wherein said radiation output window is formed in a metal layer.

4. (Previously Presented) The vertical cavity surface emitting laser of claim 1, wherein said first characteristic lateral size is equal to or greater than 5 μm .

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5. (Previously Presented) The vertical cavity surface emitting laser of claim 4, wherein said first characteristic lateral size is equal to or greater than 6 μm .

6. (Previously Presented) The vertical cavity surface emitting laser of claim 1, wherein an absolute amount of said difference of the first characteristic lateral size and the second characteristic maximum lateral size is in the range of 6 μm to 4 μm .

7. (Previously Presented) The vertical cavity surface emitting laser of claim 1, wherein an absolute amount of said difference of the first characteristic lateral size and the second characteristic maximum lateral size is substantially 4 μm .

8. (Previously Presented) The vertical cavity surface emitting laser of claim 2, wherein said third characteristic lateral size is in the range of 4 to 7 μm .

9. (Previously Presented) The vertical cavity surface emitting laser of claim 1, further comprising a third plurality of doped layers having alternately a low index of refraction and a high index of refraction, the third plurality of doped layers being disposed between said aperture layer and said second

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plurality of doped layers and having a characteristic lateral size that is greater than said second characteristic size.

10. (Previously Presented) The vertical cavity surface emitting laser of claim 1, wherein the number of doped layers in said first plurality is equal to or less than 9.

11. (Original) The vertical cavity surface emitting laser of claim 9, wherein the number of doped layers in said third plurality is equal to or less than 9.

12. (Previously Presented) The vertical cavity surface emitting laser of claim 1, wherein said second reflector